AMENDMENT TO THE CLAIMS

1.(Currently Amended) An induction heating cooking device comprising:

an inverter including:

a series circuit of a first switching element and a second switching element that are connected to ends of a smoothing capacitor;

a first diode connected to the first switching element in anti-parallel;

a second diode connected to the second switching element in anti-parallel; and

a resonant circuit that has a heating coil and a resonant capacitor, and is connected to one of the first switching element and the second switching element in parallel; and

a heating output control part that alternately drives the first switching element and the second switching element, and controls a heating output used when the heating coil induction-heats a load,

wherein

the heating output control part sets driving frequency of the first switching element and the second switching element to be substantially 1/n (where, n is an integer of 2 or more) times higher than resonance frequency of the resonant circuit in heating the load, ~~and~~

~~the heating output control part changes and controls driving duty defined by rates of a driving period of the first switching element and a driving period of the second switching element so that the driving period of the first switching element and the driving period of the second switching element are inverted in length and substantially the same heating output is obtained.~~

the heating output control part repeatedly switches driving duty defined by rates of a driving period of the first switching element and a driving period of the second switching element, between a first driving duty and a second driving duty different from the first driving duty, and controls the driving duty so that temperatures of the first switching element and the second switching element are an available temperature or lower, and

the second driving duty is the driving duty at which the driving period of the first switching element and the driving period of the second switching element are inverted in length with respect to the first driving duty, and substantially the same heating coil current and heating output are obtained before and after the switching between the driving duties.

2.(Currently Amended) The induction heating cooking device according to claim 1,

wherein the heating output control part controls the driving duty so that the driving period of the first switching element and the driving period of the second switching element are inverted in length and substantially the same heating output is obtained, by ~~changing~~ switching the driving duty from substantially (2k–1)/2n (where, k is any integer of 1 to n) to substantially 1–((2k–1)/2n) (where, k is any integer of 1 to n).

3.(Original) The induction heating cooking device according to claim 1,

wherein the heating output control part controls the heating output of the heating coil by controlling the driving frequency of the switching element.

4.(Original) The induction heating cooking device according to claim 1,

wherein the heating output control part controls the heating output of the heating coil by controlling voltage fed into the inverter.

5.(Currently Amended) The induction heating cooking device ~~according to claim 1 further~~ comprising:

an inverter including:

a series circuit of a first switching element and a second switching element that are connected to ends of a smoothing capacitor;

a first diode connected to the first switching element in anti-parallel;

a second diode connected to the second switching element in anti-parallel; and

a resonant circuit that has a heating coil and a resonant capacitor, and is connected

to one of the first switching element and the second switching element in parallel;

a heating output control part that alternately drives the first switching element and the second switching element, and controls a heating output used when the heating coil induction-heats a load; and

a switching element temperature detecting part for detecting temperature of the switching element,

wherein ~~the heating output control part, based on a detection output of the switching element temperature detecting part, changes the driving duty so that the driving periods of the first switching element and the second switching element are inverted in length and substantially the same heating output is obtained.~~

the heating output control part sets driving frequency of the first switching element and the second switching element to be substantially 1/n (where, n is an integer of 2 or more) times higher than resonance frequency of the resonant circuit in heating the load, and

the heating output control part switches driving duty defined by rates of a driving period of the first switching element and a driving period of the second switching element, based on a detection output of the switching element temperature detecting part, so that the driving period of the first switching element and the driving period of the second switching element are inverted in length, and switches and controls the driving duty so that substantially the same heating output is obtained.

6.(Currently Amended) The induction heating cooking device according to claim 1 ~~or claim 5~~, wherein the load is made of nonmagnetic metal with low resistivity.

7.(New) The induction heating cooking device according to claim 5, wherein the load is made of nonmagnetic metal with low resistivity.